

50X1-HUM

CLASSIFICATION C-O-N-F-I-D-E-N-T-I-A-L
 CENTRAL INTELLIGENCE AGENCY
 INFORMATION FROM
 FOREIGN DOCUMENTS OR RADIO BROADCASTS

REPORT

CD

COUNTRY USSR

SUBJECT Economic; Technological - Agriculture, machine building

DATE OF INFORMATION 1953-1954

HOW PUBLISHED Semimonthly, monthly periodicals

DATE DIST. 24 Aug 1954

WHERE PUBLISHED Moscow

NO. OF PAGES 5

DATE PUBLISHED Oct 1953, Mar 1954

LANGUAGE Russian

SUPPLEMENT TO REPORT NO.

THIS DOCUMENT CONTAINS INFORMATION AFFECTING THE NATIONAL DEFENSE OF THE UNITED STATES, WITHIN THE MEANING OF TITLE 18, SECTION 793 AND 794, OF THE U.S. CODE, AS AMENDED. ITS TRANSMISSION OR REVELATION OF ITS CONTENTS TO OR RECEIPT BY AN UNAUTHORIZED PERSON IS PROHIBITED BY LAW. THE REPRODUCTION OF THIS FORM IS PROHIBITED.

THIS IS UNEVALUATED INFORMATION

SOURCE As indicated

INFORMATION ON THE SOVIET DT-55 TRACTOR

50X1-HUM

SPECIFICATIONS AND TEST RESULTS -- Moscow, Tekhsovet MTS, No 19, Oct 53

The DT-55 tractor, developed at the Stalingrad Tractor Plant, will play a large part in mechanizing the draining and reclaiming of swamplands. The tractor is designed for land reclamation work and for general use with farm machines on reclaimed land. Decrees of the 19th Party Congress call for the reclaiming of swampland in the Belorussian, Ukrainian, Latvian, Lithuanian, Estonian, and Karelo-Finnish SSRs, in the RSFSR, in the Barabinskaya lowlands, and in other regions. During the Fifth Five-Year plan, the area of the reclaimed land must be increased by 40-45 percent.

The DT-55 is based on the DT-54 tractor, and differs chiefly in the design of the undercarriage. The idler wheel, including tension-adjusting and shock-absorbing devices, the tracks, and the drive sprocket were redesigned. Changes were made in the design of the track roller frames, support rollers, and track rollers. Some changes were made in the design of the frame, the body, and the hood.

The ground pressure of the DT-54 tractor is 0.38 kilograms per square centimeter. By increasing the width and length of the track links of the DT-55, the ground pressure was decreased to 0.22 kilograms per square centimeter.

- 2 -

CLASSIFICATION C-O-N-F-I-D-E-N-T-I-A-L

STATE	NAVY	NSRB	DISTRIBUTION									
ARMY	AIR	FBI										

50X1-HUM

C-O-N-F-I-D-E-N-T-I-A-L

The following table shows the specification variations between the DT-55 and the DT-54:

	<u>DT-55</u>	<u>DT-54</u>
Speeds (discounting slipping), in km/hr		
First gear	3.87	3.59
Second gear	5.0	4.65
Third gear	5.85	5.43
Fourth gear	6.77	6.28
Fifth gear	8.52	7.9
Calculated drawbar pull (on stubble field, discounting slipping), in kg		
First gear	2,636	2,850
Second gear	1,936	2,100
Third gear	1,576	1,750
Fourth gear	1,306	1,450
Fifth gear	856	1,000
Over-all dimensions, in mm		
Length	3,946	3,660
Width	2,143	1,865
Height	2,326	2,350
Width between track centers	1,577	1,435
Distance between idler wheel and drive sprocket, in mm	2,720	2,604
Track width, in mm	540	390
Track link pitch, in mm	174	196
Average ground pressure per square centimeter, in kg	0.22	0.38
Weight (with fuel and water), in kg	5,750	5,400

The following characteristics of the DT-55 tractor are based on tests conducted on a peat field with moisture content of 75-77 percent to a depth of 10 centimeters, and a ground-water level of 30-40 centimeters:

<u>Gear</u>	<u>RPM</u>	<u>Speed (km/hr)</u>	<u>Drawbar HP</u>	<u>Drawbar Pull (kg)</u>	<u>Fuel Consumption (kg/hr)</u>	<u>Slipping (%)</u>
1	1,270	3.75	37.2	2,690	11	3.2
2	1,290	4.96	37.8	2,060	11.2	2.4
3	1,285	5.82	33.4	1,560	11.55	1.9
4	1,290	6.74	31.4	1,260	11.55	1.5

[Article by Ye. Sorokin]

- 2 -

C-O-N-F-I-D-E-N-T-I-A-L

50X1-HUM

C-O-N-F-I-D-E-N-T-I-A-L

COMPARISON OF DT-55 WITH DT-54 -- Moscow, Avtomobil'naya i Traktornaya Promyshlennost', Mar 54

The engineering and technical personnel of the Stalingrad Tractor Plant have developed the DT-55 tractor for land reclamation work. The basic design of the DT-55 tractor is identical with that of the DT-54 tractor. Disposition of the engine, transmission, steering, fuel tank, and other units on the DT-55 tractor is identical with that of the DT-54 tractor.

The base of the DT-55 tractor is 570 millimeters longer than the base of the DT-54 tractor. The increase in length has been attained by mounting idler wheels on individual suspension units with leaf springs. These suspensions serve as supporting rollers and for tightening or loosening the track.

The width of the DT-55 tractor track is 530 millimeters; the width of the track on the DT-54 tractor, is 390 millimeters. The tractor frame of the DT-55 tractor is equipped with a front bar on which the axles of rocking shafts of idler wheels are fixed. The length of the track shoe has increased to 196 millimeters, as compared to the 174-millimeter track shoe on the DT-54 tractor. The distance between grousers has been made 25 millimeters longer than on the DT-54 tractor.

The ground pressure of the DT-55 tractor is 0.20-0.22 kilograms per square centimeter.

Tests conducted in 1952 showed that the wide track and the low ground pressure permit the DT-55 tractor to work on swampy ground on which no other tractor can work. Two drained areas were used to test the DT-54 and DT-55. One plot of land had been plowed to a depth of 45-50 centimeters and disked 3 days before the tests were conducted. The other plot of land was unplowed, drained virgin soil with a top layer of sod, 5-7 centimeters deep.

The method of testing consisted of gradually increasing the workload with each speed until either the tractors started slipping or the engine died. The PBYa-56 swamp plow and the S-80 tractor were used to test the pull of each tractor.

The maximum pull for each speed of the tractors is given below (in pounds):

	<u>Plowed Field</u>		<u>Virgin Soil</u>	
	<u>DT-54</u>	<u>DT-55</u>	<u>DT-54</u>	<u>DT-55</u>
1st speed	1,600-1,700	2,200-2,300	2,200-2,300	3,100-2,200[sic]
2d speed	1,500-1,600	2,200-2,300	2,100-2,200	2,900-3,000
3d speed	1,600-1,700	2,100-2,200	2,200-2,300	engine died
4th speed	engine died	engine died	engine died	engine died

The tracks of the DT-55 tractor withstood 30-40 percent more drawbar pull than the tracks of the DT-54 tractor before sinking on swampland.

The Stalingrad Tractor Plant is producing a group of DT-55 tractors for extensive testings. -- V. A. Rodionov and V. I. Gorozhankin

- 3 -

C-O-N-F-I-D-E-N-T-I-A-L

Page Denied

50X1-HUM

Next 1 Page(s) In Document Denied